

second potential to the substrate, wherein the polarity of the second potential is inverse of the polarity of the first potential.

41. The process of Claim 40, wherein the step of reducing the thickness of the planar layer comprises forming conductive material deposits only in the cavities.

B1 42. The process of Claim 41, wherein the forming of the conductive material deposits is carried out such that the conductive material is removed down to the top portion of the surface to form a substantially flat surface of the conductive material which is flush with the top portion.

43. The process of Claim 41, wherein the step of forming of the conductive material deposits is carried out such that the conductive material is removed below the top portion of the surface and left partially filling the cavities.

44. The process of Claim 39, further comprising the step of annealing of the conductive material after the step of reducing the thickness of the planar layer.

45. The process of Claim 44, further comprising the steps of:

polishing off the planar layer from the top portion of the substrate; and

electrically isolating the conductive material within the cavity portions.

46. The process of Claim 42, further comprising at least one additional step of depositing additional conductive material.

47. The process of Claim 43, further comprising at least one additional step of depositing additional conductive material.

BI 48. The process of Claim 46 or 47, wherein the additional conductive material is selectively deposited on the conductive material deposits in the cavities.

49. The process of Claim 48, wherein the at least one additional step of depositing additional conductive material results in growing the conductive material deposits to a height that is above the top portion of the surface of the substrate.

50. The process of Claim 49, further comprising at least one additional step of reducing the height of the conductive material deposit after the additional conductive material is deposited.

51. The process of Claim 50, further comprising at least one additional step of selectively depositing more conductive material on the conductive material deposits after the reducing the height of the conductive material deposits.

52. The process of Claim 40, wherein the step of reducing the thickness is electroetching.

53. The process of Claim 40, further comprising repeating the steps of applying a first potential to deposit a planar conductive material and applying a second potential to reduce the thickness of the planar layer.

B1 54. The process of Claim 42, further comprising the step of annealing of the conductive material after the step of forming the conductive material deposits.

55. The process of Claim 54, further comprising the step of electrically isolating the conductive material deposits from one another.

56. The process of Claim 49, further comprising the step of annealing of the conductive material deposits after growing the conductive material deposits.

57. The process of Claim 56, further comprising the steps of:

polishing off portions of the conductive material deposits that are above the top portion of the surface of the substrate; and

electrically isolating the remaining conductive material within the cavity portions.

Sub D3 58. A conductive material structure usable in manufacturing an integrated circuit made by a process comprising: providing a substrate, wherein the surface of the substrate includes a top portion and cavity portions;

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supplying an electrolyte solution out of which a conductive material can be plated, under an applied potential, over the surface of the substrate;

applying a potential so as to deposit a film of said conductive material out of the electrolyte solution and on the surface of the substrate and polishing the film of said conductive material; and

removing the conductive material from the top portion of the substrate while leaving deposits of the conductive material in the cavities.

59. The conductive material of claim 58, wherein at least one additional operation of depositing conductive material has been performed after removing the conductive material.

60. The conductive material of claim 59, wherein said conductive material deposited by each additional operation of depositing has been electro-etched.--